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CAN LUXURY BE SUSTAINABLE, FROM THE CONSUMER'S STANDPOINT?

CONSUMER PERCEPTIONS ON THE USE OF SUSTAINABLE MATERIALS IN LUXURY FASHION

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Abstract

Sustainability is at the forefront of Mankind's concerns. As the Luxury Fashion Industry becomes increasingly pressured to adopt more environmentally friendly practices, the existing academic literature suggests that the use of sustainable materials in luxury fashion production is poorly perceived by luxury fashion clients. Through a quantitative investigation that surveyed 125 luxury fashion buyers, this dissertation concludes that not all sustainable fibres are perceived equally, highlighting organic fibres as key materials with potential to change the image and perceived quality of sustainable textiles.

Keywords: Luxury Fashion, Sustainability, Sustainable Textiles, Consumer Behaviour

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1. Introduction

Despite the global economic crisis and geopolitical uncertainty that have marked the international scene over the past years, the luxury market has been showing a constant growth in global consumption of 5% since 2017 (Arpizio & Levato, 2017; Nervini et al., 2019), with forecasts suggesting a similar outcome for 2019 (Nervini et al., 2019). With such growth, however, come many challenges. If before the luxury industry was small and negligible enough to hide from the media spotlight, its recent prosperity is now leading to increased exposure and scrutiny (Kapferer & Michaut-Denizeau, 2014). One particular challenge arises, due to its unparalleled universal impact on present and coming generations: climate change and the urge of sustainable development (Kapferer, 2010; Positive Luxury, 2019). Driven by this growing concern, there has been a paradigm shift in global consumption (Bendell & Kleanthous, 2007), leading to an increasing number of consumers looking to adjust their purchasing behaviour according to the new sustainability ethos (Positive Luxury, 2019). With all industries under pressure to pursue more environmentally-friendly and ethical approaches to business, the luxury fashion sector too is left with no choice but to jump on the sustainability bandwagon (Winston, 2016). However, can luxury fashion be sustainable from the consumer's standpoint? Despite a growing demand for sustainable products in the FMCG industry, literature shows that in the past consumers did not always consider sustainable practices a positive attribute regarding luxury fashion (Achabou & Dekhili, 2013; Dekhili, Achabou, & Alharbi, 2019; Janssen, Vanhamme, & Leblanc, 2017; Kapferer & Michaut-Denizeau, 2014). Furthermore, Kapferer (2010) suggests that in several luxury sectors a complete shift towards sustainable manufacturing could ultimately harm the quality of the products, affecting luxury brands' image and positioning. Considering such inconsistencies, this dissertation aims at further studying how luxury consumers currently perceive sustainable development in luxury fashion, focusing on consumer attitudes towards luxury fashion products made of sustainable materials.

2. Contextual Background

2.1. Literature Review

The purpose of this literature review is to analyse the existing theoretical and empirical research on how luxury, fashion and sustainability relate. It is divided in four parts: firstly, a review of the fashion and luxury concepts is presented; secondly, the evolution of sustainable development and the rise of ethical consumption are analysed; thirdly, the current state of the fashion industry regarding sustainability is showcased, and the materials that will make the scope of this study are introduced; lastly, the different theories and studies regarding how luxury fashion and sustainability can co-exist are discussed.

2.1.1. Viewpoints on Luxury Fashion

Generating close to $2.3 trillion in annual revenue of apparel, footwear and leather accessories in 2018 (Statista, 2019a, 2019b, 2019c), the fashion industry is one of the world's largest consumer industries. It is divided in six segments: luxury, affordable luxury, premium, mid-market, value and discount (McKinsey & Company & The Business of Fashion, 2019). Considering the scope of this dissertation, the luxury segment of fashion will be the focus of further analysis. Luxury and fashion have maintained a curious relationship through the ages. Until the end of the 19th century, fashion existed exclusively under the luxury umbrella; only the wealthy could afford to buy new clothes without having the necessity to do so (Kapferer & Bastien, 2012). With the democratization of fashion in the mid-20th century made possible by industrialization, the proliferation of ready-to-wear and later the appearance of fast fashion (Rosa, 2013), fashion was no longer only at the reach of the privileged. However, whereas fashion nowadays does not belong exclusively to the luxury universe as it once did, it still coincides with luxury in its most expensive segment (Gardetti & Muthu, 2015), representing approximately 36% of the luxury goods market in 2019 (Statista, 2019d). Despite this overlap,

fashion and luxury are distinct concepts with major differences between them. Fashion is a commonly used concept to refer to clothing which has added value with regards to cut and material, for example. However, despite neither exact nor invariable through history, the concept of fashion encompasses a deeper meaning. According to Kawamura (2005), fashion is not just visual clothing, but the additional and alluring values attached to clothing which often exist only in people's imagination and beliefs (Kawamura, 2005). Fundamental elements of fashion are change and novelty (Bendell & Kleanthous, 2007; Kawamura, 2005): Fashion is intrinsically linked with an ideology of social change and humankind's receptiveness and preference for anything new. According to Barthes (1967), newness in fashion appears to have a well-defined anthropological function, justified by fashion's ambiguous nature: it is both uncertain and systematic, constant and unknown (Barthes, 1967).

Similarly to fashion, luxury is a rich concept well documented in literature, however, little consensus exists regarding its precise meaning (Heine, 2011; Janssen et al., 2017). According to Kapferer (2009), the difficulty in specifying the concept of luxury starts with its multifaced nature: the word can be used as an absolute concept; as a business model; as an economic sector; or as products and services (Kapferer & Bastien, 2009). The major struggle of defining a luxury product lies with luxury's idiosyncratic subjective nature: essentially, luxury is intrinsically related to consumer's individual perceptions (Janssen et al., 2017; Kapferer & Michaut-Denizeau, 2014; Ko, Costello, & Taylor, 2019; Vigneron & Johnson, 2004) as well as the unique context in which it is inserted (Vigneron & Johnson, 2004). Despite the difficulty in precising what luxury is, through the ages various academics have reached similar conclusions on what attributes characterize luxury items. These "luxury codes" appear to be transcendent to disciplines and time (Maman Larraufie & Kourdoughli, 2014), and tackle both luxury's traditional functional and psychological dimensions (De Barnier, Falcy, & Valette-Florence, 2012). From the traditional functional dimension point of view, luxury products are associated

with a sense of exclusivity and preciousness, in the form of high price points (Dubois, Czellar, & Laurent, 2005; Heine, 2011) and rarity (De Barnier et al., 2012; Heine, 2011; Kapferer, 2010). Extra added value (Mortelmans, 2005) is also a characteristic of a luxury product, which can take place in the form of uniqueness (Dubois et al., 2005; Vigneron & Johnson, 2004), aesthetical appeal (Dubois et al., 2005; Heine, 2011; Kapferer, 2010), and exceptional design that often overthrows function (Mortelmans, 2005). In addition, the sense of high quality (Dubois et al., 2005; Heine, 2011; Kapferer, 2010; Vigneron & Johnson, 2004) is also inherently connected to luxury, leading to an association with durability, timelessness, heritage and know-how. On the psychological dimension perspective, luxury has been recognized to have both strong social and personal functions: it differentiates its users, to the eyes of themselves and others, enhancing their prestige, self-esteem (Guercini & Ranfagni, 2013) and social status (De Barnier et al., 2012). This psychological dimension is influenced by the power of the brand (De Barnier et al., 2012), perceived conspicuousness and perceived hedonism, due to the strong link of luxury with consumer's feelings and emotions (Vigneron & Johnson, 2004). It is therefore possible to conclude that fashion and luxury share differences and similarities: although both respond to a need for social differentiation, fashion offers horizontal differentiation, allowing consumers to be recognized as members of a specific tribe, whereas luxury creates a sense of vertical differentiation, distinguishing consumers according to social stratification (Kapferer & Bastien, 2012). Moreover, luxury and fashion clash in their very definition: whereas fashion is ephemeral and intrinsically connected with desired obsolescence and a need for renewal (Bendell & Kleanthous, 2007), "luxury is the business of lasting worth" (Kapferer, 2010). Accordingly, luxury fashion differentiates itself from the other luxury and fashion segments by being condemned to forever balance two contradictory attributes: change and timelessness.

2.1.2. The Era of Sustainable Development

The idea of sustainable development gained momentum in 1987 with the Bruntland Report, which put the environmental cause in the forefront of global concerns for the first time (Zaccai, 2012). This document defined sustainable development as a universal concept that advocates for a civilization capable of meeting its present needs without jeopardizing the capability of future generations meeting their own (WCED, 1987). Civilization should promote a conservative and sensible use of the planet's resources (WCED, 1987), and consequentially, a conscious approach to business and consumerism. Besides the environmental aspect, sustainable development is also associated with social responsibility and ethics, in an ultimate attempt to achieve viable and sustainable growth (Kapferer & Michaut-Denizeau, 2014). Fast-forwarding to the present time, the current panorama of intensive demographic and economic growth, out-of-hand consumerism and excessive exploitation of the Earth's resources (Achabou & Dekhili, 2013; Bendell & Kleanthous, 2007; Kapferer, 2010) requires immediate action. However, if new legislation is the spark of the sustainable development revolution, pressure from the masses and changes in consumer's demands are its fuel. As of 2011, 51% of European citizens considered climate change to be one of the world's most serious issues (European Commission, 2011); In 2017, 51% of consumers had chosen to boycott a brand based on its environmental or societal conduct (Positive Luxury, 2019). Through this thriving global wave of environmental consciousness (Bendell & Kleanthous, 2007), consumers paved the way for a new approach to consumerism to flourish: ethical and sustainable consumption (Davies, Lee, & Ahonkhai, 2012; Harrison, Newholm, & Shaw, 2005). This concept is based on the idea that besides their individual needs, consumers take social and environmental concerns into consideration during their decision-making process when consuming (De Pelsmacker, Driesen, & Rayp, 2005; Vermeir & Verbeke, 2006). For the new generations of consumers, combining Generation Z and Millennials, sustainable practices and corporate social responsibility (CSR)

initiatives are not just an added bonus; they are mandatory (Winston, 2016). However, despite theoretical approaches showing consumers' increasingly positive attitude towards ethical and sustainable consumption, empirical studies analysing purchasing behaviour suggest contradictory findings (Achabou & Dekhili, 2013; Davies et al., 2012; Dekhili et al., 2019). There is indeed a well-documented increase in public interest for sustainability (Auger, Devinney, Louviere, & Burke, 2008; Vermeir & Verbeke, 2006), yet in the past sustainable attitudes did not always translate in the correspondent purchasing behaviour, generating an attitude-behaviour gap that applies to 30% of eco-conscious consumers in the FMCG industry (Davies et al., 2012; Vermeir & Verbeke, 2006). In fact, research shows that the preference for ethical and sustainable goods is not free from conditions: it occurs if the quality and functionality of the product are not affected (Achabou & Dekhili, 2013; Auger et al., 2008; Dekhili et al., 2019) or if the consumer is not obligated to pay extra for the sustainability feature (Achabou & Dekhili, 2013). If there is a price premium on the sustainable item, consumers will often prefer it only if its benefits perceived are higher than the ones of the non-sustainable counterpart (Gam, Cao, Farr, & Kang, 2010). Moreover, when consumers are willing to pay this price premium, the amount may depend on factors such as type of product or individual's nationality (De Pelsmacker et al., 2005). Research also suggests that consumers are more inclined to tackle sustainability in everyday purchases than in their luxury consumption, which raises doubt on whether sustainable development is worth extending to the luxury sector (Achabou & Dekhili, 2013).

2.1.3. Luxury Fashion Materials: Challenges and Opportunities

In recent years, the fashion industry has become a driver of global development and economic growth (BCG & GFA, 2017). However, fashion is also accountable for one of the largest environmental footprints of any industry (Sherman, 2019), by being a resource-intensive and waste-producing business with an intricate global supply chain network and fast production

cycles (Hur & Cassidy, 2019). The challenge of implementing sustainability into the fashion industry lies with several issues: the high environmental impact of raw material extraction and fibre production processes, accentuated by the excessive use of land and the considerable use of water and pesticides; the polluting nature of various garment production and finishing processes; the short life-cycle of garments, which are disposed and wind up in landfills generating waste (Saicheau, Cooper, & Knoz, 2016). Nonetheless, the highest contributor to the carbon footprint of the fashion industry is the process of extracting the raw materials and producing the fibres, whether they are synthetic or natural (BCG & GFA, 2017; Kirchain, Olivetti, Miller, & Greene, 2015; WRAP, 2017). The impact of this process is particularly relevant in the luxury segment of fashion, where materials play a crucial role in justifying luxury's quality claims. Traditional luxury materials include silk, goat fibres such as cashmere wool and mohair, camel fibres such as camel hair and llama fibres such as alpaca hair and vicuña wool (Franck, 2001; Von Bergen, 1948). These materials are rare, labour-intensive and costly to produce, yet their remarkable textile properties, look and feel make them desirable and consequentially expensive, reason why they maintain a secure place in the luxury fashion textile portfolio (Franck, 2001). Besides these traditional fibres, cotton, wool and leather are also profusely used in luxury fashion due to their versatility and exceptional properties. However, all these materials account for high environmental impacts: according to the Higg Materials Sustainability Index (MSI)[1] silk and alpaca have the highest environmental impacts amongst all fibres and leathers considered in the Index[2]. This data therefore suggests that a shift in the materials used in luxury fashion could be a key move to reduce the environmental impact of the sector. Alternatives such as organic, recycled fibres, and other emerging biomaterials that

[1] SAC's Higg Materials Sustainability Index is a tool which evaluates the cradle-to-gate impact of finished fashion materials. Materials are evaluated on five parameters: Global Warming, Eutrophication, Water Scarcity, Abiotic Resource Depletion & Fossil Fuels, and Chemistry (Sustainable Apparel Coalition, n.d.). The Higg Index is considered the most extensive and reliable tool of this sort (BCG & GFA, 2019).

[2] It is important to note that the Higg Materials Sustainability Index is not luxury oriented, therefore several traditional luxury fashion materials are not accounted.

have similar properties to the conventional luxury fibres could pose as plausible substitutes of the less sustainable materials (Thangavel, Rathinamoorthy, & Ganesan, 2015). Table 1 shows a compilation of various luxury fashion materials and their prospective sustainable counterparts.

Table 1: Conventional luxury fashion materials and suggested sustainable alternatives

Conventional Material (CM)	**Cotton MSI - 98**	**Silk MSI - 681**	**Cow Leather MSI - 163**	**Cashmere**	**Sheep Wool MSI - 82**
Sustainable alternative 1 **(Chemical-free CM)**	Organic Cotton MSI - 49	Organic Silk	Vegetable tanned Brazilian leather MSI - 109	-	Organic wool MSI - 49
Sustainable alternative 2 **(Recycled/Recovered CM)**	Recycled Cotton MSI - 40	Peace Silk	Recycled Leather (Recyc Leather™)	Re-engineered Cashmere (Re.Verso®)	Recycled Wool (Re.Verso®)
Sustainable alternative 3 **(Alternative Material to CM)**	Tencel® MSI - 47	Soy Protein Fibre	Piñatex Fibre MSI – 60 44% Recycled PET + 56% Polyurethane MSI – 30	80% Soy Protein Fibre +20% Cashmere	-

Sources: Sustainable Apparel Coalition - Higg MSI, (n.d.); Stella McCartney, (n.d.-b); Stella McCartney, (n.d.-c); Ananas Anam, (n.d.); Recyc Leather, (n.d.); Rijavec & Zupin, (2011).

The environmentally friendly alternatives were classified into three levels: Sustainable Alternative 1 (SA1) comprises chemical-free and organic versions of the Conventional Material (CM); Sustainable Alternative 2 (SA2) comprises materials that are still composed of the CM, yet the fibres are not in their virgin state, being recycled[3] or recovered versions of the CM; Sustainable Alternative 3 (SA3) is an alternative material to the CM, having a different composition but similar textile properties. The Higg MSI scores of the materials available are presented as a guideline to compare the environmental impact of each alternative. Cotton and Silk will be the subjects of this study. The criteria for this selection are explained in the Methodology section of this dissertation.

[3] Pre-consumer and post-consumer textile waste is sorted according to quality, colour, and cut, shredded into 15mm fibres and re-spun into yarn (Sustainable Apparel Coalition, n.d.).

Cotton and its sustainable alternatives | Traditional cotton, with a MSI of 98, is a natural fibre of cellulosic origin, widely used in luxury fashion due to its breathability, moisture-absorption and softness. Nevertheless, it accounts for 60% of the total water footprint of textile processing (WRAP, 2017), 16% of world pesticide usage (Saicheau et al., 2016) and 20% to 25% of global insecticide consumption (Blackburn, 2009; Gam et al., 2010). Organic cotton fibre is an alternative to traditional cotton, having a MSI of 49. It is produced without recurring to synthetic fertilizers, pesticides and defoliants (Achabou & Dekhili, 2013; Gam et al., 2010), which often lead to poisoning of land and water. Despite being more environmentally friendly, organic cotton is still very water intensive. Besides, organic cotton clothing is approximately 60% more expensive than regular cotton garments (Gam et al., 2010). An eco-friendlier alternative to both traditional and organic cotton is recycled cotton. With an MSI of 39, recycled cotton is considerably more sustainable than conventional cotton as it does not require the initial resource-consuming processes of the production chain to be conducted again. Lastly, a sustainable alternative to cotton altogether is Tencel®, a man-made bio-based material of the lyocell family, obtained from the dissolved pulp of sustainably harvested trees (Lenzing, n.d.). Tencel® has a MSI of 47 and is produced by Lenzing, a leading manufacturer of sustainable cellulosic fibres accredited with the highest forestry practices and closed-loop production processes. Tencel® has a very smooth surface, feeling softer than cotton; it has also a much higher absorption capability than cotton, leading to a higher breathability and comfort level. According to Firgo *et al* (2006), the physiological properties of cellulosic fibres[4] are much more salient in Tencel® than in any other fibre of this family, meaning that Tencel® performs better than cotton in these aspects (Firgo, Schuster, Suchomel, Männer, & Burrow, 2006).

[4] High absorbency; warm and dry properties (as an insulation layer); high heat capacity; cool and dry to the touch; ability to actively reduce temperature; neutral electric properties; strong retardation of bacterial growth; gentle to the skin (Firgo et al., 2006).

Silk and its sustainable alternatives | Produced by the silkworm *Bombix Mory,* silk is a natural animal fibre known for its intense lustrous shine, remarkable drapeability, smoothness and tenacity (Franck, 2001). When silkworms reach maturity, they spin around them cocoons composed by a continuous filament of a fibroin protein compound produced by the worm itself, that solidifies in contact with the air. As soon as the cocoons are completed, these are emerged in boiling water, killing the worms inside, until they are soft enough to be unravelled and processed (Thangavel et al., 2015). Silkworm rearing is costly and labour-intensive, as silkworms are vulnerable to disease and feed solely of mulberry leaves, making silk an expensive and scarce fibre (Franck, 2001). Despite accounting for less than 0.2% of global textile production (Franck, 2001), silk requires heavy allocation of natural resources, such as water, and contributes considerably for global warming (Šajn, 2019), being the least sustainable fibre featured in the Higg MSI with a score of 681. The first sustainable alternative to conventional silk is organic silk: no chemicals are used in the growth of the mulberry trees that feed the silkworms, nor in silk processing (Thangavel et al., 2015). Therefore, organic silk is readily biodegradable and less impactful on the environment. Another concern of conventional silk, although not directly connected with environmental impact, is the animal cruelty involved in silkworm rearing, since the animals are killed to prevent the destruction of the continuous filament of silk when the moths emerge from the cocoons. However, it is still possible to produce silk from cocoons that have been broken. This silk is called ahimsa silk, also known as peace silk: the silkworm moths complete their metamorphosis and emerge from the cocoons; the segments of silk thread are then collected and spun together into a continuous yarn (Stella McCartney, n.d.-a). Due to not being made of one continuous filament, peace silk is finer, less strong, and less smooth than conventional silk, besides being more expensive (Thangavel et al., 2015). As of 2019, an emerging new material that can pose as an alternative to silk is soy protein fibre, a man-made fibre produced from regenerated soybean proteins combined with polyvinyl

alcohol (Rijavec & Zupin, 2011). This material mimics many qualities of natural fibres, particularly cashmere and silk, for a much lower price and environmental impact (Li, 2004). It is also extremely sustainable, by being made from a renewable resource in a closed-loop system.

2.1.4. The Paradox of Sustainable Luxury Fashion

Can luxury fashion and sustainability go hand in hand? Theoretical approaches seem to view luxury and sustainability as compatible, complementary concepts. Kapferer (2010) perceives luxury as high quality goods made with precious, rare resources, with time respect for the artisans who manufacture them (Kapferer & Michaut-Denizeau, 2014; Kapferer, 2010). Considering that sustainable development too focuses on respecting the limited availability of the planet's resources, one can acknowledge that luxury and sustainability share similar values: rarity and durability (Carcano, 2013; Guercini & Ranfagni, 2013; Kapferer, 2010). Moreover, luxury fashion is a luxury sector intrinsically linked to change (Kapferer & Bastien, 2012), more than any other, reason why a shift towards sustainability could represent a natural evolution for the category. It is also implied that luxury fashion brands, as major players in the fashion industry and great sources of influence, have the means to act as pioneers of this new fashion paradigm (Bendell & Kleanthous, 2007). Not only can they take advantage of their business model which already focuses on producing quality and durable goods, but they also have the financial capability to promote the development of more sustainable and ethical products (Achabou & Dekhili, 2013; Bendell & Kleanthous, 2007; Davies et al., 2012). However, from a client's perspective, there are mixed opinions regarding whether sustainable development in luxury fashion would be successful. A recent study on luxury brands' CSR initiatives (Amatulli, De Angelis, Korschun, & Romani, 2018) concluded that luxury brands' CSR and sustainability practices are perceived as a positive feature by luxury clients. Another study, on brand conspicuousness (Janssen et al., 2017), concluded that luxury brands with CSR policies following an inconspicuous strategy are positively received by clients, contrary to

brands following a more conspicuous approach. Research also suggests that sustainable development can be an opportunity to boost brand differentiation among increasingly environmentally-conscious consumers (K. H. Kim, Ko, Xu, & Han, 2012), to whom the traditional luxury quality and scarcity features are no longer sufficient buying drivers (A. J. Kim & Ko, 2012; Positive Luxury, 2019; Winston, 2016). On the other hand, some studies indicate that clients can also perceive luxury and sustainability as incompatible concepts. In a study that tested luxury fashion buyers' receptiveness to products made of recycled materials (Achabou & Dekhili, 2013), results showed that despite understanding the benefits of recycling, clients still responded negatively to the usage of recycled materials in luxury fashion goods. Another consumer study on perceptions regarding luxury and sustainability (Beckham & Voyer, 2014) concluded that participants considered the luxury items to be less luxurious when they were labelled as sustainable, and disagreed with the idea that luxury is more sustainable due to its quality and durability attributes. Furthermore, a survey enquiring 966 luxury buyers (Kapferer & Michaut-Denizeau, 2014) concluded that even though 36.1% of the surveyed did not consider luxury and sustainability incompatible, 33.8% highlighted the antagonism of both concepts, leading to inconclusive results. All in all, two consumer studies (Achabou & Dekhili, 2013; Dekhili et al., 2019) have identified perceived quality as the key factor affecting consumer's willingness to buy sustainable luxury fashion goods. Considering that Kapferer (2010) also stated that a complete shift towards sustainability could affect negatively the quality of the products (Kapferer, 2010), one can ask: are luxury clients prepared embrace this new luxury paradigm? Though various recent studies have addressed the impact of CSR policies in luxury clients' perceptions (Amatulli et al., 2018; Costa Pinto, Herter, Gonçalves, & Sayin, 2019; Janssen et al., 2017), fewer research has focused on how luxury fashion buyers perceive the use of different sustainable materials in luxury fashion and how each sustainable material affects a luxury fashion item's perceived quality. Past studies have shown that consumers want

sustainable luxury, but not at all costs. However, with recent data showing that the new generation of luxury buyers is more concerned than ever with their environmental footprint (Positive Luxury, 2019), the following research question arises: **Do luxury fashion clients perceive sustainable materials negatively, compared to traditional luxury fashion materials?** Based on the existing literature, which suggests that consumers perceive sustainable materials as being of lower quality than conventional materials, the following hypothesis was formulated: **H1 – Luxury fashion consumers perceive goods made of sustainable materials (SA1, SA2 and SA3) to be of lower quality than goods made from conventional materials (CM).** Lastly, the existence of both recycled and virgin sustainable alternatives to the subjects of this study will allow the comparison of consumer's perceptions between recycled and virgin sustainable materials. The existing research suggested that recycled materials are negatively perceived (Achabou & Dekhili, 2013). Accordingly: **H2 - Recycled sustainable materials (SA2) are more negatively perceived than virgin sustainable materials (SA1 and SA3).**

3. Addressing the Work Project Topic

3.1. Methodology

In order to conduct this study, a conclusive descriptive research design was chosen, since the purpose was to determine perceptions of product characteristics and test pre-formulated hypothesis (Saunders, Lewis, & Thornhill, 2009). A quantitative research was conducted, through a self-administered structured internet-mediated questionnaire. The choice of an internet-mediated questionnaire was justified by the expected difficulties in scouting interviewees: considering that luxury clients have been characterized as having high incomes, executive positions and habiting in capital cities (Achabou & Dekhili, 2013), it was expected that these individuals would be difficult to contact, and would not have availability for in-person

interviews. Accordingly, an internet-mediated questionnaire would allow for a higher reach, a more significant and representative sample and consequently a more successful data collection process (Saunders et al., 2009).

Method | There have been conducted two material tests: the cotton test (T1) and the silk test (T2). The reasons for the choice of materials are the following: 1) both materials have at least one sustainable alternative for each established level - SA1, SA2 and SA3; 2) cotton and silk provide reasonable coverage of the luxury fashion material spectrum, since cotton is a plant-derived fibre and silk is an animal-derived fibre; 3) both men and women purchase the same garments made from these materials, enabling the consideration of these two consumer segments. To test the receptiveness to each material, a hypothetical scenario was presented to the respondents: they were in their favourite luxury brand's store looking to buy a t-shirt – for T1– and a shirt – for T2 – for themselves. For each test, the respondents were given four options, each made of a different material (CM, SA1, SA2 and SA3). They were then asked to state their willingness to buy each one, and to rank the four options according to their level of perceived quality and environmental impact. Questions were also made in order to understand the respondent's perception of luxury, sensitivity to sustainability and adoption of sustainable behaviours. Please refer to Appendix 1 for the detailed questionnaire.

Sample Description and Data Collection | The desired sample would be composed of luxury fashion clients. In order to define what a luxury fashion client is, the model from the True Luxury Global Consumer Insight Report 4th Edition from The Boston Consulting Group was adapted (BCG, 2017). As a pre-recruiting filter, respondents had to select from a list which luxury fashion products they had purchased over the past two years – example: Handbag over 1000€; Shoes over 300€. Respondents who selected at least one option were considered for the study. To reach the members of the target population, a combination of non-probability sampling techniques was used, which included self-selection sampling and judgemental

sampling (Saunders et al., 2009). 337 luxury fashion clients were contacted via Instagram direct message and asked to complete the questionnaire. To incentivize participation, a voucher of 30€ was raffled. The questionnaire was also shared in survey sharing platforms such as Survey Circle. A total of 125 valid responses were collected between October 31st, 2019 and November 24th 2019. The sample's characteristics are summarized in Table 2. The final sample included consumers from 27 different nationalities, being the three most frequent Portuguese, French and American. Most respondents are female with ages below 35 years old (63,3%). For more details regarding the sample, please refer to Appendix 1.

Table 2: Sample Description

Variables		Number of respondents	Percentage
Gender	Male	21	16,8%
	Female	101	80,8%
	Prefer not to say	3	2,4%
Age	<35	85	68%
	>35	40	32%
Annual Income (after tax)	<10 000€	22	17,6%
	10 000€ - 49 000€	44	35,2%
	50 000€ - 99 000€	21	16,8%
	>100 000€	11	8,8%
	Prefer not to say	27	21,6%
Consumption of luxury products	Occasional consumers[a]	66	52,8%
	Frequent consumers[b]	59	47,2%
Total number of respondents		125	100%

[a] Occasional Consumers: purchased less than 3 products over the past 2 years.

[b] Frequent Consumers: purchased 3 or more products over the past 2 years.

Source: Primary data collected through internet-mediated questionnaire.

3.2. Research Insights

Consumer's Sensitivity to Sustainability | The surveyed sample showcases positive attitudes towards sustainability (see Fig. 1). Respondents appear to be highly conscious and overall preoccupied with environmental issues: 80% consider themselves "concerned with the degradation of the planet"; 79,2% also "consider global warming a very serious issue". Moreover, most respondents recognize a need to change their current lifestyles in order to fight

global warming (76,8%) and 68,8% consider themselves "interested in adopting a more sustainable lifestyle". The mean of responses was 2,15 on a seven-point Likert Scale. These findings show a high sensitivity towards environmental issues among the respondents, therefore suggesting that the sampled luxury fashion consumers are sustainability oriented.

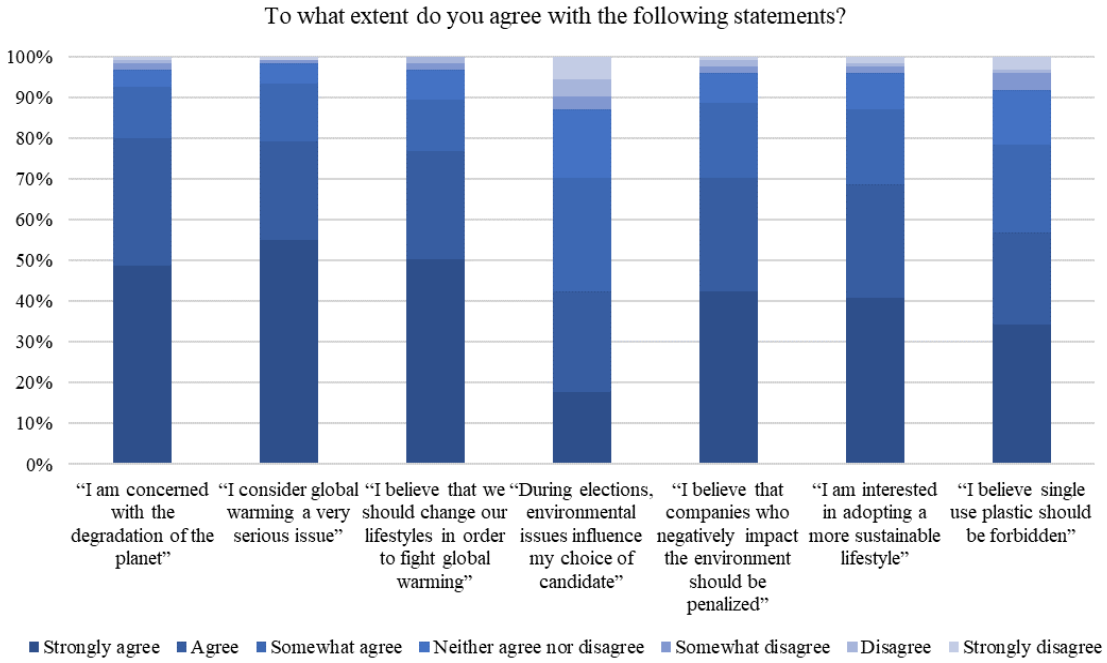

Fig. 1: Respondents' Sensitivity to Sustainability

Source: Primary data collected through internet-mediated questionnaire

Consumer's Sustainable Behaviours | The research insights suggest that luxury fashion clients are moderate adopters of sustainable behaviours (see Fig. 2). Contrary to sustainable attitudes, which were shown to be strongly present, sustainable behaviours appear to be less consistent. Whereas 53,6% of respondents state they always separate trash for it to be recycled, only 11,2% admit always choosing products with minimal packaging. Furthermore, whereas 56% of respondents state they always turn off lights and electrical appliances when they are not being used, only 33,6% admit to always turning off the water when it is not being used in the shower. Only 8,8% of respondents stated to always avoid eating meat for environmental reasons, and 44% admit never doing so. It is also possible to observe that the adoption of

sustainable behaviours is not free from conditions: whereas 14,4% of respondents stated they prefer to buy sustainable products only if they are not more expensive, solely 8,8% admitted to always preferring to buy sustainable products, even if they are more expensive. The mean of responses is 2,6 on a five-point Likert Scale. Comparing to the previously shown mean of 2,15 regarding sensitivity to sustainability, it is possible to note the already expected discrepancy between consumers' attitudes and behaviours, which corroborates the existing literature regarding the attitude-behaviour gap in environmentally oriented consumers.

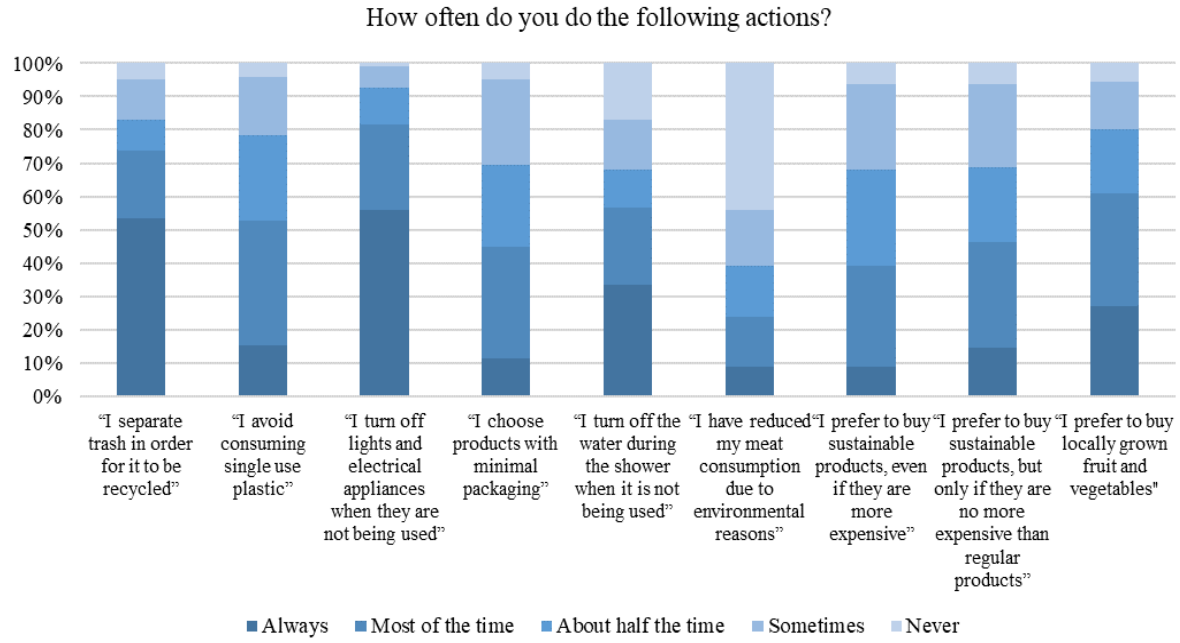

Fig. 2: Respondents' Sensitivity to Sustainability

Source: Primary data collected through internet-mediated questionnaire

Consumers' Perception of Luxury | When asked to rank seven attributes according to their level of importance when making a luxury fashion purchase, research insights show that luxury consumers value Quality above all given attributes, with 60% of respondents ranking it either as the most important or second most important attribute (see Fig. 3). Aesthetics is the second most valued attribute, with 33,6% of respondents ranking it as the most important and 20,8% considering it the second most important. The third most valued attribute is Brand, followed by

Price, Uniqueness, Exclusivity and lastly Environmental Impact, which is the least valued attribute by consumers: 36% of respondents ranked it as the least important attribute when making luxury fashion purchases, and only 2,4% considered it the most important feature. This information confirms key insights provided by the literature: despite showing a high sensitivity towards sustainability and moderate adoption of sustainable behaviours, luxury fashion clients do not yet value environmental impact when making luxury fashion purchases, in comparison with other traditional luxury attributes such as quality.

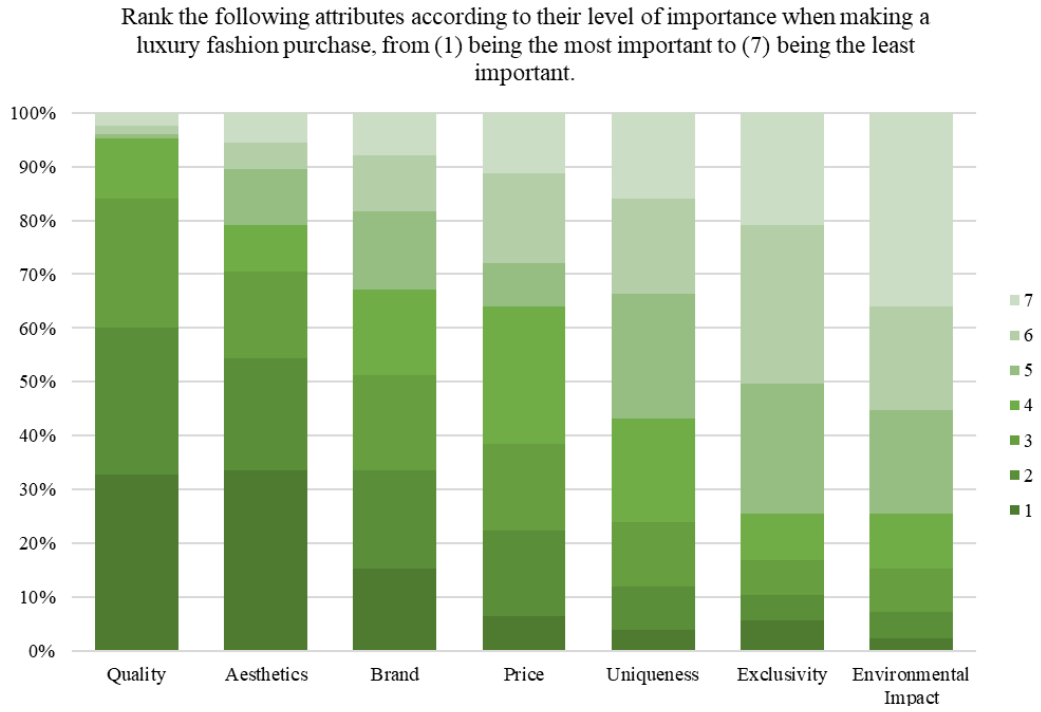

Fig. 3: Respondents' Perceptions of Luxury

Source: Primary data collected through internet-mediated questionnaire

Consumer's Perceptions of Materials in Luxury Fashion | When asked to state the likelihood of buying each t-shirt and shirt individually (see Fig. 4), it is possible to observe that both in T1 (Cotton Test, in Orange) and T2 (Silk Test, in Yellow), SA1 (Option B) is the preferred option by respondents.

Fig. 4: Respondents' likelihood of buying t-shirts and shirts A, B, C and D.

Source: Primary data collected through internet-mediated questionnaire

In T1, SA1 is followed by SA2 (Option C), CM (Option A) and lastly SA3 (Option D). In T2, SA1 is followed by CM, SA2 and SA3 respectively. This line up becomes clearer when respondents were asked to rank each garment from the most likely to be purchased to the least likely to be purchased (see. Fig. 5).

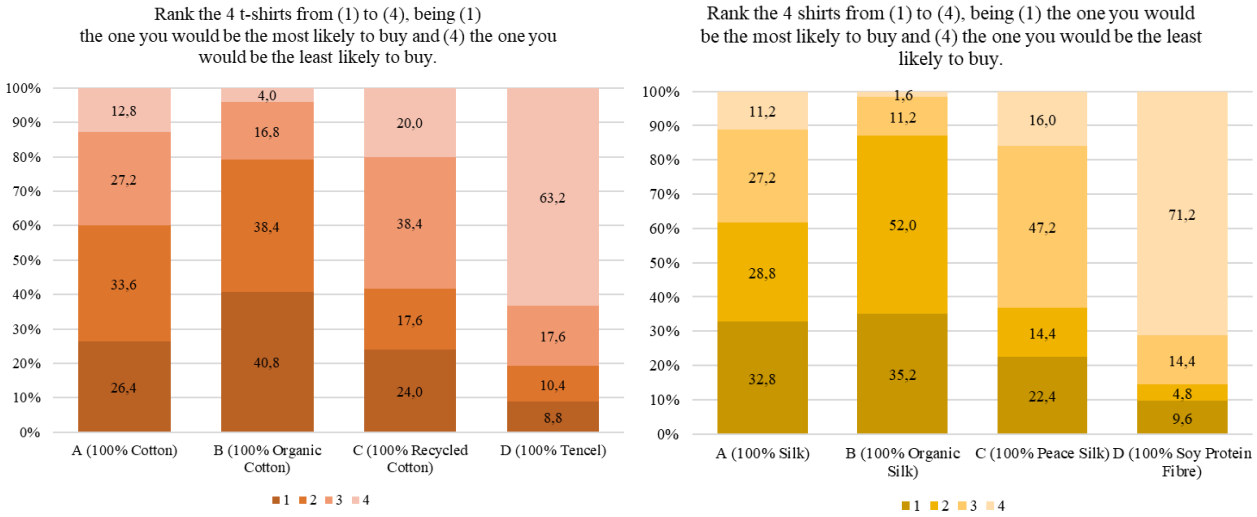

Fig. 5: Respondents' likelihood of buying t-shirts and shirts A, B, C and D in ranking order.

Source: Primary data collected through internet-mediated questionnaire

In both tests, there is a clear preference for Organic Cotton and Organic Silk over Conventional Cotton and Conventional Silk respectively, yet the conventional fibre prevails over SA2, correspondent to Recycled Cotton and Peace Silk. SA3, corresponding to Tencel® and Soy

Protein Fibre, is distinctively the least preferred, with over 60% of respondents considering both T-shirt D and Shirt D the least likely to be purchased.

Consumer's Perceptions of Materials' Quality | Respondents were asked to rank each garment according to the level of perceived quality (see Fig. 6).

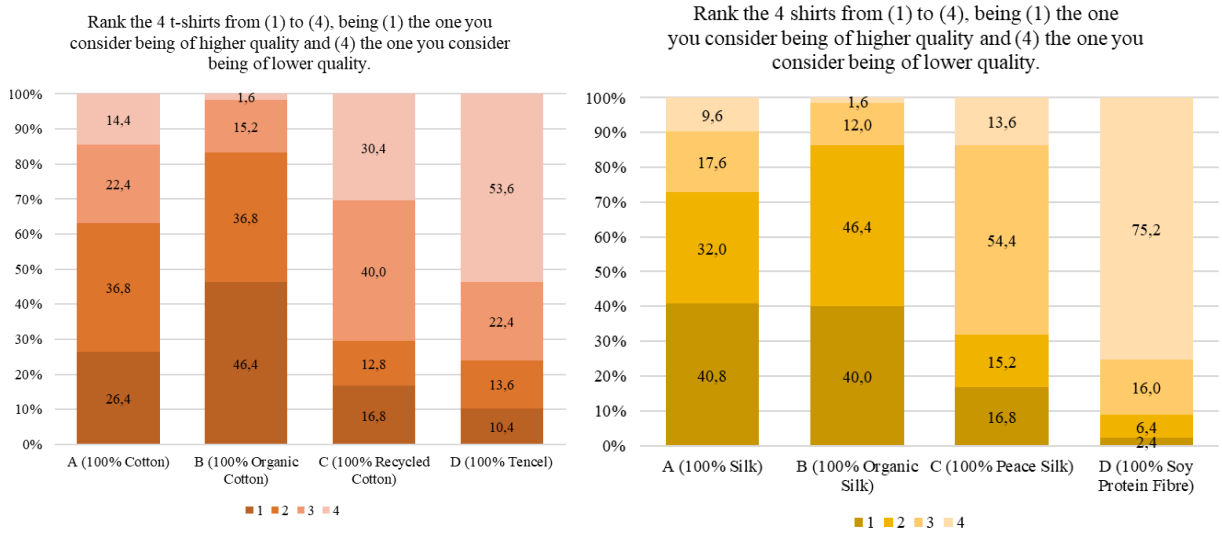

Fig. 6: Respondents' Perceptions of Materials' Quality

Source: Primary data collected through internet-mediated questionnaire

The insights obtained were similar for both T1 and T2, and show that consumers considered SA1 to have the highest quality: 46,4% of respondents ranked T-shirt B as the higher quality t-shirt and 40% ranked Shirt B as the higher quality shirt. CM was the material considered to have the second highest level of quality, followed by SA2. SA3 is the material considered to have the lowest quality both in T1 and T2, with more than 60% of consumers considering Tencel® and Soy Protein Fibre the lowest quality fibres.

When comparing the insights of materials' perceived quality with the willingness to purchase each garment, it is possible to observe that both in T1 and T2 the rankings follow the same order: the most preferred garments are made from the materials perceived to have the highest quality – Organic Cotton and Organic Silk; the least preferred garments are the ones made from

the materials also perceived to have the lowest quality – Tencel® and Soy Protein Fibre. Considering that the materials perceived to have the highest quality are Organic Cotton and Organic Silk, correspondent to SA1, and not Cotton and Silk, correspondent to CM, it is possible to reject **H1.** In addition, because the materials perceived to have to lower quality – Tencel® and Soy Protein Fibre - are virgin materials and not recycled materials, it is also possible to reject **H2**.

Consumer's Perceptions of Materials' Environmental Impact | Respondents were asked to rank each garment according to level of perceived environmental impact (see Fig. 7).

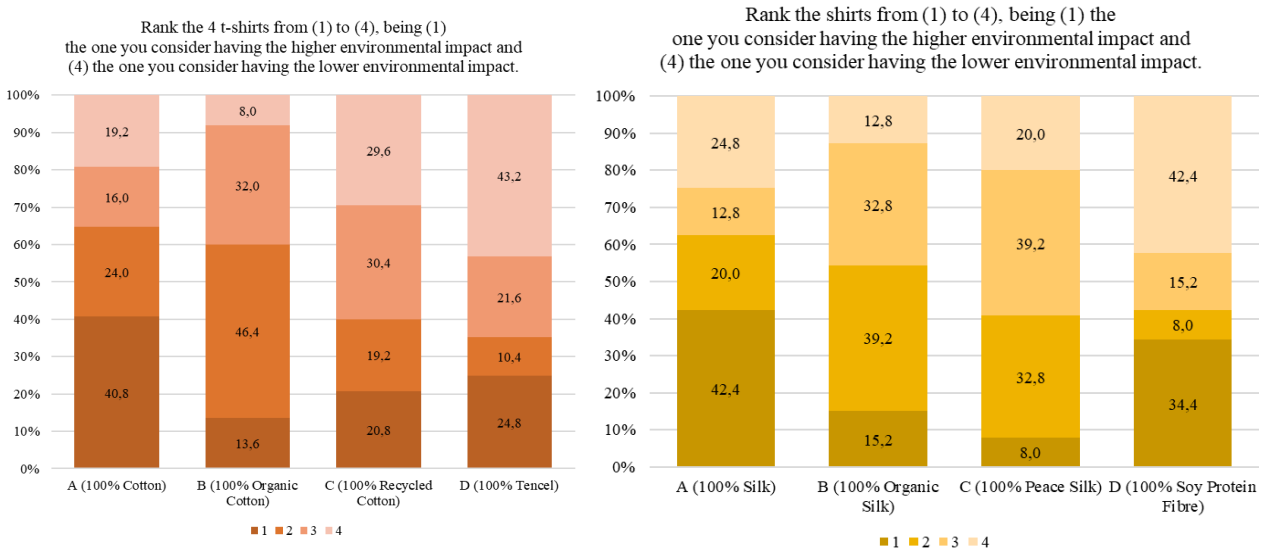

Fig. 7: Respondents' Perceptions of Materials' Environmental Impact

Source: Primary data collected through internet-mediated questionnaire

Regarding T1, consumers considered CM to have the higher environmental impact, with a mean ranking position of 2,14. The CM is followed by SA1 with a mean ranking position of 2,34, SA2 with a mean ranking position of 2,69 and lastly SA3, which is considered to have the lower environmental impact with a mean ranking position of 2,83. Concerning T2, CM is also perceived to have the higher environmental impact with a mean ranking position of 2,20, followed by SA1 with a mean ranking position of 2,43, SA3 with a mean ranking position of 2,66 and lastly SA2 with a mean ranking position of 2,71. In T1, it is possible to observe that

Tencel®, which is the least preferred fibre and the one considered to have the lower quality, is also considered the most sustainable fibre. This insight corroborates the previous findings which suggest that environmental impact is not yet taken into consideration for luxury fashion purchases. Concerning T2, the fibre perceived to be the most sustainable is Peace Silk, which is the second least preferred fibre and the second worst perceived fibre regarding quality. Interestingly, Organic Cotton and Organic Silk which are the respondent's preferred fibres and are perceived as having high quality, are considered the second least sustainable, and the traditional luxury materials are considered the least sustainable options.

4. Conclusion and Managerial Recommendations

This dissertation includes four main conclusions.

Firstly, and supporting Achabou & Dekhili (2013), Quality remains the most valued attribute when purchasing luxury fashion goods, contrary to Environmental Impact which is not yet a relevant factor, even among eco-conscious buyers. Therefore, should luxury brands and other industry players decide to tackle environmental concerns, such should not be done in detriment of the products' quality.

Secondly, and answering the research question, this study concludes that luxury fashion clients do not perceive all sustainable materials negatively, compared to traditional luxury fashion materials. Organic cotton and organic silk, which are more sustainable than their traditional counterparts, are perceived to have higher quality, and are also perceived to be more environmentally friendly. Such findings suggest that there is indeed room for sustainable luxury fashion to thrive under certain conditions, as suggested by the reviewed literature, yet some sustainable development strategies could prove more successful than others. As Organic materials appear to be highly regarded by luxury clients, luxury fashion brands' focus should

be to leverage this opportunity to adopt more sustainable practices while satisfying consumer interest by investing in producing and communicating goods with an organic composition. Despite not being free of environmental concerns, organic fibres appear to be contenders to act as key agents to demystify sustainability in luxury textiles.

Thirdly, and contrary to what was concluded by Achabou & Dekhili (2013), recycled fibres are not negatively perceived comparing to all virgin fibres – close to 70% of respondents consider purchasing a garment made of Recycled Cotton, whereas only 41% consider buying a Tencel® t-shirt. Similarly, 66% of respondents consider purchasing a Peace Silk Shirt, whereas only 40% consider buying the Soy Protein Fibre garment. Such findings suggest recent evolution in consumer behaviour towards a better acceptance of recycled and recovered fibres in the luxury fashion industry. Consequently, luxury fashion brands should focus on increasing the offer of these materials while stressing their immense environmental benefits.

Lastly, emerging biomaterials such as Tencel® and Soy Protein Fibre are negatively perceived by luxury clients both concerning quality and environmental impact, despite having remarkable textile properties and being considerably more sustainable comparing to the traditional luxury materials and even their organic correspondents. Such insights denote a clear discrepancy between consumer perceptions and the reality of the materials' properties, suggesting that a greater and urgent effort must be conducted by industry players in order to educate consumers and better communicate the textile properties and high quality attributes of Tencel® and Soy Protein Fibre, as well as their low environmental impact. Stella McCartney is a role model brand that successful uses organic, recycled and innovative biomaterials in luxury fashion, by enhancing their quality, disclosing their origin and highlighting their sustainable nature.

All in all, this dissertation contributes to the discussion on the topic by providing further evidence to support the claim that sustainable luxury fashion is not utopian; yet client's

reactions to it remain volatile and inconsistent. Conscious and careful efforts must be made to keep up with consumer's increasingly eco-friendly inclinations, without forfeiting the importance of real and perceived quality in Luxury Fashion, by focusing on communicating transparency and educating the audience about the properties and benefits of sustainable fibres.

5. Work Project Limitations and Recommendations for Further Research

The external validity of this study is limited by several research limitations that should be considered when interpreting these results. Firstly, this study had a sample of 125 individuals, mostly female with ages below 35 years old who were recruited through their luxury-displaying Instagram profiles. Therefore, being the sample reduced and relatively homogeneous, it is not representative of the general population. For further research, probability sampling techniques should be adopted, in order to achieve a representative sample balanced in terms of gender, age, and consumption profile. Secondly, the choice of an internet-mediated questionnaire, although necessary given time constraints, limited the research as materials which were tested could not be seen nor felt by respondents, who relied solely on a brief description of each material to answer the questions asked. Furthermore, by using a quantitative method only, qualitative insights which could prove useful to understand the underlying motivations that lead to certain perceptions were not gathered. In the future, it would be valuable to conduct an experimental research where respondents could have contact with the materials and consequently provide more accurate insights. Lastly, it must be noted that the Higg Material Sustainability Index used to select the materials for this study evaluates only the cradle-to-gate impact of fashion materials, meaning that solely the stages from raw material extraction to fabric finishing were accounted for the environmental scoring. For future research, efforts should be made to evaluate the environmental impact of materials considering their entire lifecycle, from raw material extraction to garment disposal, in order to get a more comprehensive and accurate perspective of which materials are truly the most sustainable and advantageous.

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A Work Project, presented as part of the requirements for the Award of a Master's Degree in Management from the Nova School of Business and Economics.

CAN LUXURY BE SUSTAINABLE, FROM THE CONSUMER'S STANDPOINT?

CONSUMER PERCEPTIONS ON THE USE OF SUSTAINABLE MATERIALS IN LUXURY FASHION

APPENDIXES

MATILDE BORGES TITO BAIÃO PAULO (33770)

Work project carried out under the supervision of:

Professor Catherine da Silveira

Professor Anne-Flore Maman Larraufie

03-01-2020

Table of Contents

Appendix 1 – Questionnaire and Answers Received

1. **Introduction and consent form**

Dear participant,

Thank you in advance for your cooperation. My name is Matilde and I am conducting this questionnaire as part of my dissertation for the Master's in Management of Nova School of Business and Economics. Its purpose is to understand how you perceive the use of different materials in luxury fashion goods.

The questionnaire should take no more than 14 minutes to complete. Participation is completely voluntary, and you can withdraw from the study at any point. There are no right or wrong answers, as the objective is to answer sincerely according to your own opinions. This questionnaire will remain anonymous and confidential, and the data collected will serve solely for the purpose of this study.

As a compensation for answering this questionnaire, a voucher of 30€ will be raffled among the participants. If you wish to participate, further on you will be asked to provide a valid e-mail so that you can be contacted regarding the results of the raffle. If you do not wish to participate, you do not need to provide an e-mail address.

If you have any further questions regarding this study, feel free to contact me through my email address (matilde.tito@hotmail.com).

If you understand the information above and agree to participate, please select "Yes, I agree".

Yes, I agree ☐ - 125 respondents

No, I do not agree ☐

2. Pre-recruiting questionnaire

2.1. Select from the list below which luxury fashion items you have purchased in the last 2 years. (if less than 1 item – finish questionnaire)

- ☐ Handbag over 1000€ - 60 respondents
- ☐ Shoes over 300€ - 60 respondents
- ☐ Sunglasses over 180€ - 63 respondents
- ☐ Outerwear / Coat over 1400€ - 13 respondents
- ☐ Dresses for women over 1200€ - 9 respondents
- ☐ Suit for men over 1600€ - 2 respondents
- ☐ Sweater / Knitwear over 400€ - 12 respondents
- ☐ Shirts / Topwear over 200€ - 23 respondents
- ☐ Jeans / Pants / Skirt over 250€ - 15 respondents
- ☐ Scarf / Tie over 150€ - 28 respondents
- ☐ Wallet / Belt over 180€ - 52 respondents
- ☐ Other(s). Please specify _____- 9 respondents

3. Consumer's Perception of Luxury

3.1. Rank the following attributes according to their level of importance when making a luxury fashion purchase, from (1) being the most important to (7) being the least important.

- Exclusivity
    - 1 – 7 respondents
    - 2 – 6 respondents
    - 3 – 8 respondents
    - 4 – 11 respondents

    - 5 – 30 respondents
    - 6 – 37 respondents
    - 7 – 26 respondents

- Quality
    - 1 – 41 respondents
    - 2 – 34 respondents
    - 3 – 30 respondents
    - 4 – 14 respondents
    - 5 – 1 respondent
    - 6 – 2 respondents
    - 7 – 3 respondents

- Aesthetics
    - 1 – 42 respondents
    - 2 – 26 respondents
    - 3 – 20 respondents
    - 4 – 11 respondents
    - 5 – 13 respondents
    - 6 – 6 respondents
    - 7 – 7 respondents

- Uniqueness
    - 1 – 5 respondents
    - 2 – 10 respondents

    - 3 – 15 respondents
    - 4 – 24 respondents
    - 5 – 29 respondents
    - 6 – 22 respondents
    - 7 – 20 respondents

- Price
    - 1 – 8 respondents
    - 2 – 20 respondents
    - 3 – 20 respondents
    - 4 – 32 respondents
    - 5 – 10 respondents
    - 6 – 21 respondents
    - 7 – 14 respondents

- Environmental Impact
    - 1 – 3 respondents
    - 2 – 6 respondents
    - 3 – 10 respondents
    - 4 – 13 respondents
    - 5 – 24 respondents
    - 6 – 24 respondents
    - 7 – 45 respondents

- Brand
    - 1 – 19 respondents
    - 2 – 23 respondents
    - 3 – 22 respondents
    - 4 – 20 respondents
    - 5 – 18 respondents
    - 6 – 13 respondents
    - 7 – 10 respondents

4. Attitude towards materials

4.1. Cotton

Imagine that you are in your favourite luxury brand's store and you want to buy a white t-shirt for yourself. There are four options available – **t-shirt A, B, C and D -** presented below. They all have similar prices, color and design, but each is made from a **different material**. A brief explanation about each material is provided for your convenience. You will now be asked to answer a few questions about the t-shirts.

T-shirt A

Composition: 100% Cotton

Cotton is a natural plant-derived fibre obtained from the cotton plant.

Price: 200€

T-shirt B

Composition: 100% Organic Cotton

Organic cotton is a natural plant-derived fibre obtained from the cotton plant, produced without synthetic fertilizers, pesticides and defoliants.

Price: 200€

T-shirt C

Composition: 100% Recycled Cotton

Recycled cotton is a plant-derived fibre obtained from cotton textile waste, which is separated according to their colour, shredded, and transformed into new yarn.

Price: 200€

T-shirt D

Composition: 100% Tencel®

Tencel is a man-made plant-derived fibre obtained from the dissolved pulp of trees.

Price: 200€

4.1.1 How likely would you be to buy t-shirt A (100% Cotton)?

Extremely likely 31 respondents	Somewhat likely 54 respondents	Neither likely nor unlikely 19 respondents	Somewhat unlikely 14 respondents	Extremely unlikely 7 respondents

4.1.2 How likely would you be to buy t-shirt B (100% Organic Cotton)?

Extremely likely 44 respondents	Somewhat likely 50 respondents	Neither likely nor unlikely 21 respondents	Somewhat unlikely 7 respondents	Extremely unlikely 3 respondents

4.1.3 How likely would you be to buy t-shirt C (100% Recycled Cotton)?

Extremely likely 43 respondents	Somewhat likely 44 respondents	Neither likely nor unlikely 23 respondents	Somewhat unlikely 11 respondents	Extremely unlikely 4 respondents

5.1.4 How likely would you be to buy t-shirt D (100% Tencel®)?

Extremely likely 20 respondents	Somewhat likely 32 respondents	Neither likely nor unlikely 32 respondents	Somewhat unlikely 28 respondents	Extremely unlikely 13 respondents

4.1.5 Rank the 4 t-shirts from (1) to (4), being (1) the one you consider being of higher quality and (4) the one you consider being of lower quality.

- T-shirt A (100% Cotton)
    - 1 – 33 respondents
    - 2 – 46 respondents
    - 3 – 28 respondents
    - 4 – 18 respondents

- T-shirt B (100% Organic Cotton)
    - 1 – 58 respondents
    - 2 – 46 respondents
    - 3 – 19 respondents
    - 4 – 2 respondents

- T-shirt C (100% Recycled Cotton)
    - 1 – 21 respondents
    - 2 – 16 respondents
    - 3 – 50 respondents
    - 4 – 38 respondents

- T-shirt D (100% Tencel®)
    - 1 – 13 respondents
    - 2 – 17 respondents
    - 3 – 28 respondents
    - 4 – 67 respondents

4.1.6 Rank the 4 t-shirts from (1) to (4), being (1) the one you would be the most likely to buy and (4) the one you would be the least likely to buy.

- T-shirt A (100% Cotton)
    - 1 – 33 respondents
    - 2 – 42 respondents
    - 3 – 34 respondents
    - 4 – 16 respondents

- T-shirt B (100% Organic Cotton)
    - 1 – 51 respondents
    - 2 – 48 respondents
    - 3 – 21 respondents
    - 4 – 5 respondents

- T-shirt C (100% Recycled Cotton)
    - 1 – 30 respondents
    - 2 – 22 respondents
    - 3 – 48 respondents

- 4 – 25 respondents

- T-shirt D (100% Tencel®)
  - 1 – 11 respondents
  - 2 – 13 respondents
  - 3 – 22 respondents
  - 4 – 79 respondents

4.1.7 Rank the 4 t-shirts from (1) to (4), being (1) the one you consider having the higher environmental impact and (4) the one you consider having the lower environmental impact.

- T-shirt A (100% Cotton)
  - 1 – 51 respondents
  - 2 – 30 respondents
  - 3 – 20 respondents
  - 4 – 24 respondents

- T-shirt B (100% Organic Cotton)
  - 1 – 17 respondents
  - 2 – 58 respondents
  - 3 – 40 respondents
  - 4 – 10 respondents

- T-shirt C (100% Recycled Cotton)
  - 1 – 26 respondents
  - 2 – 24 respondents

- 3 – 38 respondents
- 4 – 37 respondents

- T-shirt D (100% Tencel®)
  - 1 – 31 respondents
  - 2 – 13 respondents
  - 3 – 27 respondents
  - 4 – 54 respondents

4.2.Silk

Imagine that you are in your favourite luxury brand's store and you want to buy a white shirt for yourself. There are four options available – **shirt A, B, C and D -** presented below. They all have similar prices, colour and design, but each is made from a **different material**. A brief explanation about each material is provided for your convenience. You will now be asked to answer a few questions about the shirts.

Shirt A

Composition: 100% Silk

Silk is a natural animal-derived fibre obtained from the cocoons segregated by silkworms, which are boiled and unravelled.

Price: 300€

Shirt B

Composition: 100% Organic Silk

Organic silk is a natural animal-derived fibre obtained from the cocoons segregated by silkworms. No chemicals are used in the growth of the mulberry trees that feed the silkworms, nor in silk processing.

Price: 300€

Shirt C

Composition: 100% Peace Silk

Peace silk is a natural animal-derived fibre obtained from the broken cocoons segregated by silkworms, which are collected and processed into one filament.

Price: 300€

Shirt D

Composition: 100% Soy Protein Fibre

Soy Protein Fibre is a man-made fibre produced from regenerated soybean proteins combined with polyvinyl alcohol.

Price: 300€

4.2.1 How likely would you be to buy shirt A (100% Silk)?

Extremely likely 39 respondents	Somewhat likely 52 respondents	Neither likely nor unlikely 17 respondents	Somewhat unlikely 11 respondents	Extremely unlikely 6 respondents

4.2.2 How likely would you be to buy shirt B (100% Organic Silk)?

Extremely likely 48 respondents	Somewhat likely 51 respondents	Neither likely nor unlikely 16 respondents	Somewhat unlikely 6 respondents	Extremely unlikely 4 respondents

4.2.3 How likely would you be to buy shirt C (100% Peace Silk)?

Extremely likely 41 respondents	Somewhat likely 42 respondents	Neither likely nor unlikely 29 respondents	Somewhat unlikely 9 respondents	Extremely unlikely 4 respondents

4.2.4 How likely would you be to buy shirt D (100% Soy Protein Fibre)?

Extremely likely 17 respondents	Somewhat likely 33 respondents	Neither likely nor unlikely 33 respondents	Somewhat unlikely 23 respondents	Extremely unlikely 19 respondents

4.2.5 Rank the 4 shirts from (1) to (4), being (1) the one you consider being of higher quality and (4) the one you consider being of lower quality.

- Shirt A (100% Silk)
    - 1 – 51 respondents
    - 2 – 40 respondents
    - 3 – 22 respondents
    - 4 – 12 respondents

- Shirt B (100% Organic Silk)
    - 1 – 50 respondents
    - 2 – 58 respondents
    - 3 – 15 respondents
    - 4 – 2 respondents

- Shirt C (100% Peace Silk)
    - 1 – 21 respondents
    - 2 – 19 respondents
    - 3 – 68 respondents
    - 4 – 17 respondents

- Shirt D (100% Soy Protein Fibre)
    - 1 – 3 respondents
    - 2 – 8 respondents
    - 3 – 20 respondents
    - 4 – 94 respondents

4.2.6 Rank the 4 shirts from (1) to (4), being (1) the one you would be the most likely to buy and (4) the one you would be the least likely to buy.

- Shirt A (100% Silk)
    - 1 – 41 respondents
    - 2 – 36 respondents
    - 3 – 34 respondents
    - 4 – 14 respondents

- Shirt B (100% Organic Silk)
    - 1 – 44 respondents
    - 2 – 65 respondents
    - 3 – 14 respondents
    - 4 – 2 respondents

- Shirt C (100% Peace Silk)
    - 1 – 28 respondents
    - 2 – 18 respondents
    - 3 – 59 respondents
    - 4 – 20 respondents

- Shirt D (100% Soy Protein Fibre)
    - 1 – 12 respondents
    - 2 – 6 respondents
    - 3 – 18 respondents
    - 4 – 89 respondents

4.2.7 Rank the shirts from (1) to (4), being (1) the one you consider having the higher environmental impact and (4) the one you consider having the lower environmental impact.

- Shirt A (100% Silk)
    - 1 – 53 respondents
    - 2 – 25 respondents
    - 3 – 16 respondents
    - 4 – 31 respondents

- Shirt B (100% Organic Silk)
    - 1 – 19 respondents
    - 2 – 49 respondents
    - 3 – 41 respondents

- 4 – 16 respondents

- Shirt C (100% Peace Silk)
  - 1 – 10 respondents
  - 2 – 41 respondents
  - 3 – 49 respondents
  - 4 – 25 respondents

- Shirt D (100% Soy Protein Fibre)
  - 1 – 43 respondents
  - 2 – 10 respondents
  - 3 – 19 respondents
  - 4 – 53 respondents

5. Consumer's Sustainable Behaviours

5.1. How often do you do the following actions?

	Always	Most of the time	About half the time	Sometimes	Never
"I separate trash in order for it to be recycled"	67	25	12	15	6
"I avoid consuming single use plastic"	19	47	32	22	5
"I turn off lights and electrical appliances when they are not being used"	70	32	14	8	1
"I choose products with minimal packaging"	14	42	31	32	6

“I turn off the water during the shower when it is not being used”	42	29	14	19	21
“I avoid eating meat due to environmental reasons”	11	19	19	21	55
“I prefer to buy sustainable products, even if they are more expensive”	11	38	36	32	8
“I prefer to buy sustainable products, but only if they are no more expensive than regular products”	18	40	28	31	8
“I prefer to buy locally grown fruit and vegetables"	34	42	24	18	7

6. Consumers sensitivity to sustainability

6.1. To what extent do you agree with the following statements?

	Strongly agree	Agree	Somewhat Agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
“I am concerned with the degradation of the planet”	61	39	16	5	2	1	1
“I consider global warming a very serious issue”	69	30	18	6	1	0	1
“I believe that we should change our lifestyles in order to fight global warming”	63	33	16	9	2	2	0
“During elections, environmental issues influence my choice of candidate”	22	31	35	21	4	5	7

"I believe that companies who negatively impact the environment should be penalized"	53	35	23	9	2	2	1
"I am interested in adopting a more sustainable lifestyle"	51	35	23	11	2	1	2
"I believe single use plastic should be forbidden"	43	28	27	17	5	1	4

7. Respondent's Profile

7.1. Gender

- ☐ Female – 101 respondents
- ☐ Male – 21 respondents
- ☐ Prefer not to say – 3 respondents

7.2. Age Range

- ☐ 18-24 – 37 respondents
- ☐ 25-35 – 48 respondents
- ☐ 36-45 – 20 respondents
- ☐ 46-55 – 15 respondents
- ☐ 56-65 – 4 respondents
- ☐ >65 – 1 respondent

7.3. Nationality _____

- Algerian – 1 respondent
- American – 19 respondents

- Asian-Pakistani – 1 respondent
- Australian – 2 respondents
- Austrian – 1 respondent
- Belgian – 1 respondent
- British – 7 respondents
- Bulgarian – 1 respondent
- Canadian – 5 respondents
- Dutch – 1 respondent
- Filipino – 1 respondent
- French – 29 respondents
- German - 1 respondent
- Greek – 1 respondent
- Indian – 3 respondents
- Irish – 1 respondent
- Italian – 3 respondents
- Japanese – 1 respondent
- Korean – 1 respondent
- Lithuanian – 1 respondent
- Moroccan – 2 respondents
- Polish – 1 respondent
- Portuguese – 27 respondents
- Romanian – 1 respondent
- Serbian – 1 respondent
- Spanish – 1 respondent
- Swedish – 3 respondents

- Prefer not to say/other – 6 respondents

7.4. Occupation _____

- Account Manager – 1 respondent
- Accountant – 1 respondent
- Archivist – 1 respondent
- Auditor – 1 respondent
- Blogger – 1 respondent
- Business Administration – 4 respondents
- Civil Engineer – 1 respondent
- College Lecturer – 1 respondent
- Commercial – 1 respondent
- Company Director – 1 respondent
- Consultant – 4 respondents
- Corporate Affairs Director – 1 respondent
- Corporate Executive – 1 respondent
- CSR Manager – 1 respondent
- Educator – 2 respondents
- Engineer – 3 respondents
- Entrepreneur – 1 respondent
- Aesthetician – 1 respondent
- Executive – 1 respondent
- Fashion Designer – 1 respondent
- Financial Services – 2 respondents
- Flight Attendant – 1 respondent

- Group Manager – 1 respondent
- Hotel Manager – 3 respondents
- Industrial Engineer – 1 respondent
- Jr. Project Manager – 1 respondent
- Kindergarten Teacher – 1 respondent
- Lawyer – 2 respondents
- Luxury Customer Advisor – 1 respondent
- Manager – 8 respondents
- Marketing Manager – 6 respondents
- Marketing Student – 2 respondents
- Massage Therapist – 1 respondent
- No occupation – 3 respondents
- Occupational Therapist – 1 respondent
- Personal Fitness Trainer – 1 respondent
- Pharmacist – 1 respondent
- PhD Student – 3 respondents
- Product Manager – 1 respondent
- Professional Athlete – 1 respondent
- Program Manager – 1 respondent
- Project Coordinator – 1 respondent
- Project Manager – 1 respondent
- Psychologist – 2 respondents
- Realtor – 1 respondent
- Retired – 1 respondent
- Salesperson – 2 respondents

- Self Employed – 2 respondents
- Sourcing Manager – 1 respondent
- Speech Pathologist – 1 respondent
- Student – 31 respondents
- Teacher – 2 respondents
- Tutor – 1 respondent
- Video Game Designer – 1 respondent
- Warehouse Associate – 1 respondent
- Prefer not to say/Other – 3 respondents

7.5. Please select the higher level of education you have completed

- ☐ Primary School – 0 respondents
- ☐ Secondary School – 19 respondents
- ☐ Bachelor's Degree – 41 respondents
- ☐ Master's Degree – 58 respondents
- ☐ PhD – 7 respondents

7.6. Please select your annual income after tax.

- ☐ Less than 10 000€ - 22 respondents
- ☐ 10 000€ to 24 999€ - 10 respondents
- ☐ 25 000€ to 49 999€ - 34 respondents
- ☐ 50 000€ to 74 999€ - 7 respondents
- ☐ 75 000€ to 99 999€ - 14 respondents
- ☐ 100 000€ to 149 999€ - 6 respondents

- ☐ 150 000€ and greater – 5 respondents
- ☐ Prefer not to answer – 27 respondents

8. If you wish to participate in the 30€ voucher raffle, please provide a valid e-mail address below. Your e-mail will solely be used to announce the results of the raffle. All participants will receive an e-mail to ensure full transparency. The raffle will be done on December 1st 2019.

- ☐ I want to participate. E-mail _____ - 28 respondents
- ☐ I do not want to participate. – 97 respondents